

I CLAIM:

1 1. An expression vector comprising:

2 (a) a first nucleotide sequence capable of expressing a polypeptide
3 having a thrombin proteolytic cleavage site at the carboxyl terminus of
4 said polypeptide, and;

5 (b) a second nucleotide sequence consisting essentially of
6 nucleotides 73 to 750 of a full length human erythropoietin receptor cDNA
7 coding sequence, said second sequence being positioned 3' to said
8 thrombin proteolytic cleavage site and being translationally coupled to
9 said first sequence.

1 2. A purified fusion protein consisting essentially of:

2 (a) a first polypeptide segment having an amino terminus and a
3 carboxyl terminus, said segment having a thrombin proteolytic cleavage
4 site at said carboxyl terminus; and

5 (b) a second polypeptide segment consisting essentially of about
6 amino acid 25 to about amino acid 250 of a full length human
7 erythropoietin receptor protein, said second polypeptide segment being
8 covalently coupled to said carboxyl terminus of said first polypeptide
9 segment.

1 3. A purified human erythropoietin receptor polypeptide consisting
2 essentially of about amino acid 25 to about amino acid 250 of the full length human
3 erythropoietin receptor protein, said human erythropoietin receptor polypeptide being
4 capable of binding human erythropoietin.

1 4. A purified antibody having specific binding affinity for a purified human
2 erythropoietin receptor polypeptide, said polypeptide consisting essentially of about
3 amino acid 25 to about amino acid 250 of the full length human erythropoietin
4 receptor protein, said polypeptide being capable of binding human erythropoietin.

1 5. An immunoassay composition comprising:
2 (a) a solid phase immunoassay reagent; and
3 (b) the protein of claim 3 operably coupled to said reagent.

1 6. An immunoassay composition comprising:
2 (a) a solid phase reagent; and
3 (b) an antibody of claim 4 operably coupled to said reagent.

1 7. A method for obtaining a substantially pure human erythropoietin
2 receptor polypeptide consisting essentially of about amino acid 25 to about amino acid
3 250 of the full length human erythropoietin receptor protein, said human

erythropoietin receptor polypeptide being capable of binding erythropoietin, comprising:

(a) providing the purified fusion protein of claim 2;

(b) treating said fusion protein with thrombin under conditions allowing cleavage of said polypeptide from said fusion protein, to form a digest mixture;

(c) adding said digest mixture to a solid phase reagent having erythropoietin coupled thereto, under conditions allowing binding of said polypeptide with said solid phase reagent, to form a polypeptide-solid phase composition;

(d) washing said polypeptide-solid phase composition to remove unbound material; and

(e) eluting said polypeptide from said polypeptide-solid phase composition.

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